



Draft Report and Health Advisory for Fish from Lake Natoma and the Lower American River (Sacramento County)

a fact sheet by
Office of Environmental Health Hazard Assessment
California Environmental Protection Agency

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Why has OEHHHA developed a draft health advisory for fish from Lake Natoma and the lower American River?

Recent studies by the U.S. Geological Survey and the University of California-Davis indicated that some species of fish in Lake Natoma contain elevated levels of mercury and could pose a health risk to people who eat them frequently. The Office of Environmental Health Hazard Assessment (OEHHHA) has evaluated the health effects of eating these fish as well as fish from the lower American River analyzed for mercury in previous surveys and has developed a draft report and health advisory with proposed guidelines for the consumption of fish from these water bodies.

The draft report and advisory propose guidelines for eating bass, channel catfish, and other types of fish from Lake Natoma and the lower American River. One set of guidelines applies to women of childbearing age and children age 17 and younger, who are particularly sensitive to methylmercury (the most prevalent form of mercury in fish). A second set applies to women beyond their childbearing years and adult men.

Because methylmercury affects neurological development, women of childbearing age and children age 17 and younger should carefully follow guidelines for eating these fish.

Why is mercury found in fish from this region?

Mercury in fish from these water bodies is a legacy of gold mining activity that began during the Gold Rush and continued until the mid 1950's. Miners used mercury to extract gold from mined materials and discharged the waste into streams, where the mercury accumulated in the sediment. Because of its high density, liquid mercury moves relatively slowly through river systems and accumulates in places where sediments are trapped, such as reservoirs. Bacteria convert this inorganic form of mercury into a more toxic, organic form known as methylmercury, which fish take in from their diet. Methylmercury can accumulate in fish to concentrations many thousands of times greater than mercury levels in the surrounding water. Because methylmercury accumulates in fish slowly over time, larger fish of a species usually have higher concentrations of methylmercury than smaller fish from the same water body. Predatory fish, such as bass, generally contain more methylmercury than non-predatory fish, such as trout.

What are the human health effects of methylmercury found in these fish?

Developing fetuses and children are especially sensitive to methylmercury. Pregnant women and nursing mothers can pass on methylmercury to their fetuses or infants through the placenta and through breast milk. Excessive exposure to methylmercury can affect the nervous system in children, leading to subtle decreases in learning ability, language skills, attention, and memory. These effects may occur through adolescence as

the nervous system continues to develop. For this reason, a more conservative set of guidelines applies to women of childbearing years and children up to and including age 17.

In adults, the most subtle symptoms of methylmercury toxicity are numbness and tingling sensations in the hands and feet or around the mouth. Other symptoms at higher levels of exposure could include loss of coordination and vision problems.

The levels of methylmercury found in fish from these lakes and rivers should not result in the health effects described above if the proposed guidelines are followed. The extent of health effects depends on the amount of methylmercury that people ingest from the fish that they eat and is also related to a person's body weight.

What are the next steps in OEHHA's evaluation?

OEHHA is seeking public comment on the draft report and advisory guidelines. A public workshop to receive comments will be held on May 10, 2004, at 10 a.m. at the Cal/EPA Headquarters Building in the Coastal Hearing Room, Second Floor, 1001 "I" Street, Sacramento. Written comments can also be sent directly to OEHHA until June 2, 2004. OEHHA will review all comments before issuing a final report and advisory.

Should I stop eating all fish from these water bodies?

No. Fish are a nutritious part of your diet when eaten in moderate amounts. By following OEHHA's guidelines for eating fish from this region, you can reduce your risk of health effects from exposure to methylmercury.

Because of the increased sensitivity to methylmercury during periods of neurological development, it is particularly important for women of childbearing age and children age 17 and younger to follow the guidance provided. OEHHA offers separate advice for women beyond their childbearing years and adult men.

Additionally, because virtually all ocean and freshwater fish contain some level of methylmercury, OEHHA recommends that women of childbearing age and children aged 17 and younger do not eat shark, swordfish, king mackerel, or tilefish and limit their total consumption of any freshwater sport fish to no more than one meal per week, unless more restrictive advice is already in place. This advice is consistent with recent federal advice for eating commercial and sport fish.

Where can I get more information?

For information on mercury and other contaminants in sport fish in California, contact:

Office of Environmental Health Hazard Assessment
P.O. Box 4010, Sacramento, CA 95812-4010
(916) 327-7319 or <http://www.oehha.ca.gov>

For information on mercury in commercial fish, contact:

U. S. Food and Drug Administration
Center for Food Safety and Applied Nutrition
1 (888) SAFEFOOD or <http://www.cfsan.fda.gov>

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Proposed Fish Consumption Guidelines***

Type of Fish	Women of childbearing age and children age 17 and younger	Women beyond childbearing years and men
	Eat No More Than:	Eat No More Than:
Channel Catfish	DO NOT EAT	Once a Month
All Bass	Once a Month	Once a Month
White Catfish	Once a Month	Once a Week
Pikeminnow	Once a Month	Once a Week
Sucker	Once a Month	Once a Week
Bluegill	Once a Week	3 Times a Week
Sunfish	Once a Week	3 Times a Week
Other Sport Fish Species	Once a Week	3 Times a Week

EAT SMALLER FISH OF LEGAL SIZE. Fish accumulate mercury as they grow.

DO NOT COMBINE FISH CONSUMPTION ADVICE. If you eat multiple species or catch fish from more than one area, the recommended guidelines for different species and locations should not be combined. For example, if you eat a meal of fish from the one meal per month category, you should not eat another fish species containing mercury for at least one month.

MEAL SIZE IS ASSUMED TO BE 8 OUNCES FOR A 154 POUND ADULT. If you weigh more or less than 154 pounds, add or subtract 1 oz to your meal size, respectively, for each 20 pound difference in body weight.